USING THE DIGITAL ENVIRONMENTAL ATLAS OF GEORGIA

S.J. Alhadeff, J.W. Musser, and T.R. Dyar

AUTHORS: Hydrologist, U.S. Geological Survey, Georgia Institute of Technology, GIS Center Building, 276 Fifth Street, NW, Atlanta, GA 30332-0695.

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Abstract. The U.S. Geological Survey (USGS) and Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey, recently released (2000, updated and re-released in 2001) a two-volume Compact Disc (CD) set entitled "Digital Environmental Atlas of Georgia" (Atlas) containing computer readable data sets for geographic information systems (GIS). The Atlas not only provides a wide range of traditional maps, but also enables users to experiment with their own individually created maps through personal-computer-based GIS software included on the CDs. The information on the CD set will help Georgia's students learn more about their State and will be useful to businesses and various local, State and Federal agencies.

The CDs contain 38-digital map data sets covering the State of Georgia that are useful to the general public, private industry, schools, and government agencies. The data sets include:

- towns and cities;
- public lands;
- State parks;
- trails and greenways;
- county boundaries;
- geographic names;
- hydrologic units;
- shorelines;
- soils;
- major roads;
- public airports;
- river reach–major streams;
- roads;
- USGS Ground-Water Site Inventory;
- hydrography;
- 7.5-minute topographic quadrangle index;
- USGS surface-water monitoring stations;
- elevation contours;
- 1:250,000-scale digital elevation model;
- 1:100,000-scale digital raster graphic;
- 1:250,000-scale digital raster graphic;
- 1:500,000-scale digital raster graphic;
- land cover;
- Level I land use, Level II land use;
- pipelines;
- transmission lines and miscellaneous transportation;
- railroads;
- river corridors with mean-annual streamflow greater than 400 cubic feet per second;
- 1:250,000-scale slope;
- National forests;
- physiographic provinces;
- surficial geology;
- geologic dikes;
- geologic faults;
- ground-water pollution susceptibility;
- most significant ground-water recharge areas; and the
- Georgia Department of Transportation state highway map.

ArcExplorer[1/], Version 1.1 software, by Environmental Systems Research Institute, Inc., is included on the CDs. ArcExplorer allows the user to display combinations of data sets and attributes using selected colors and patterns. Spatial and logical queries also can be performed to locate selected sets of attributes. ArcExplorer gives the user the ability to perform the following spatial functions using the data sets on the CDs:

- overlay multiple data sets;
- identify data-set features;
- find and locate features using data-set attributes;
- query the data sets using Boolean logic;
- create tables of selected data-set features;
- create custom maps for use in reports; and
- measure areas and distances within data sets.

Three examples of these capabilities are illustrated below. The included ArcExplorer GIS interface depicting user-selected spatial data is shown in figure 1. Results from a query of residential landuse by county (DeKalb) is shown in figure 2. Both tabular and graphical results are displayed. A schist mica/gniess/amphibolite geologic formation in the vicinity of Stone Mountain, over a 1:100,000-Scale topographic map of the area is shown in figure 3. Additional examples depicting a variety of uses for the data covering the functionalities listed above are included on the CD.

Additional GIS information for Georgia may be accessed through the USGS, Georgia District World Wide Web home page at **http://ga.water.usgs.gov** or on the Georgia Department of Natural Resources website at **http://www.dnr.state.ga.us**. Similar information products are being made available by the Georgia GIS Clearinghouse (with active participation from a number of Federal and State and local agencies), website at **http://www.gis.state.ga.us**.

LITERATURE CITED

Alhadeff, S.J., Musser, J.W., Sandercock, A.C., and Dyar, T.R., 2000, Digital Environmental Atlas of Georgia: Georgia Geologic Survey Publication CD-1, 2 CD-ROM set.

Environmental Systems Research Institute, 1998, Using ArcExplorer: Redlands, Calif., Environmental Systems Research Institute (ESRI), 81 p.

[1/]Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

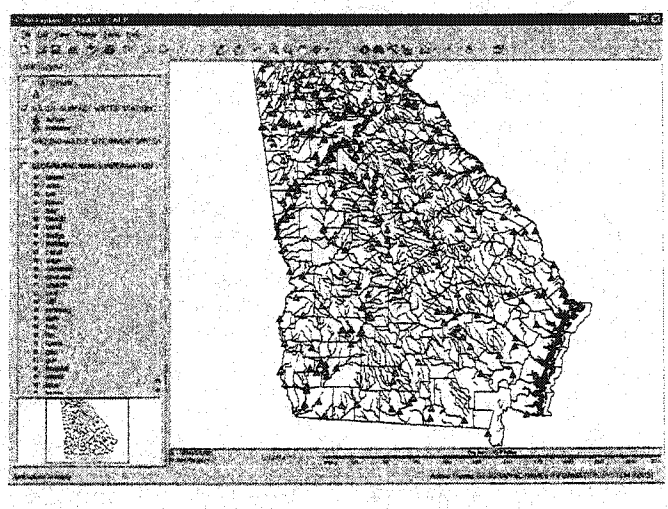

Figure 1. ArcExplorer GIS interface to the Digital Environmental Atlas of Georgia.

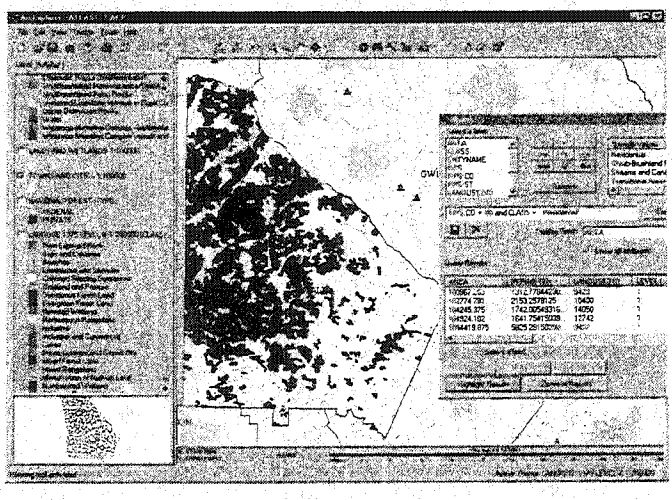

Figure 2. Selection and display of residential land use by selected county (DeKalb County, for example).

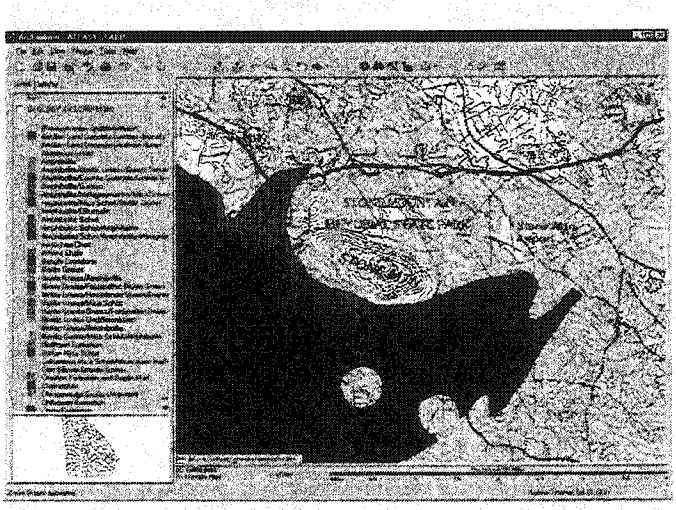

Figure 3. Mica schist/gneiss/amphibolite geologic formation in the vicinity of Stone Mountain, Georgia.